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EVgo

11390 W. Olympic Blvd, Suite 250
Los Angeles, CA 90064

April 17th, 2019

Docket Control
Arizona Corporation Commission
1200 W Washington
Phoenix, AZ 85004

Re: Arizona Corporation Commission Staff Implementation Plan for the Electric Vehicles, Electric Vehicle Infrastructure, and the Electrification of the Transportation Sector in Arizona Policy Statement

Dear Commissioners and Staff:

EVgo applauds the Arizona Corporate Commission (Commission) for taking a critical step forward on the path to transportation electrification (TE) with its Draft Implementation Plan. EVgo is the nation's largest provider of public fast charging stations[1], with a network spanning 34 states and 66 metropolitan markets. In 2018 alone, EVgo powered more than 75 million electric miles, an 88% year over year increase. Today, EVgo has operational DC fast chargers (DCFC) across Arizona, including in Tucson, Scottsdale, Casa Grande, and Phoenix and looks forward to future growth in Arizona as new TE programs are implemented.

As the Commission moves forward with setting implementation guidelines for future TE filings, EVgo is grateful for the opportunity to provide input both at the workshops and via public comments. Following the release of the Commission's Staff Draft Implementation Plan, EVgo respectfully submits the subsequent recommendations to position future Public Service Corporation (PSC) programs for success.

EVgo thanks Staff for the opportunity to provide input and extends itself as a resource to the Commission in further planning. Please do not hesitate to contact us if we can answer any additional questions or be of further assistance.

Sincerely,

Sara Rafalson, EVgo
Director, Market Development
sara.rafalson@evgo.com

[1]U.S. Dep't of Energy Off. of Energy Efficiency & Renewable Energy, FOTW #1052, October 22, 2018: *Four Networks Maintain Over 60% of Level 2 and DC Fast Charging Stations* (Oct. 22, 2018), https://www.energy.gov/eere/vehicles/articles/fotw-1052-october-22-2018-four-networks-maintain-over60-22343-level-2-and-dc

I. The Commission should consider 50 kW as the *minimum* charger power rating and mandate that "future proofing" be considered in future PSC filings.

EVgo commends the Commission for understanding the importance of right-sizing electric infrastructure to meet EV battery capabilities today and tomorrow. However, given the current limitations of the vehicle battery technology and equipment costs, a mandated 200 kW minimum power rating for all new DCFC, as recommended in the Draft Implementation Plan (Section 3.A.V) is an unnecessary restriction at this stage in Arizona's nascent EV market. Instead, EVgo recommend that the Commission impose 50 kW as the minimum charging rate, and ask that PSCs include the concept of "future proofing" at sites with a variety of charging rates.

While EVgo is currently installing charging infrastructure in a variety of throughputs, including 50 kW, 80 kW, and up to 350 kW[2], 50 kW is still the most common public DC charging rate today, especially for retail applications where customers average dwell times are 30 – 60 minutes.

The reason for this commonality is simple: battery charging limitations. With today's battery capabilities, there are currently no mass market electric vehicles capable of charging at 200 kW on a public fast charger, and while battery capabilities are evolving, many of the electric vehicles[3] on the road today charge at 50 kW or lower.

More importantly, EVgo's experience points to the importance in matching technology deployment to use case. While higher power charging may be appropriate for certain applications in a future state where there are far more vehicle models available that can take a higher rate of charge, there will likely always be a use case for a mix of charging speeds depending on the average dwell time at a given station location.

Regardless of today's battery limitations, EVgo recognizes the value of and recommends "future proofing" as technology continues to evolve. Future proofing refers to the practice of sizing the power feed for a charging station to allow higher voltage charging as technology advances to permit the use of faster charging methods. This has become a common practice within utility programs across the country and should be included for any applications filed by PSCs in Arizona. These programs are critical because installing higher power transformers, switchgear, and larger conduit is often significantly less expensive than trying to upgrade a site after the fact.

Pacific Gas & Electric's (PG&E) Fast Charge Make Ready Program[4], approved in summer 2018, developed many important precedents for the Commission and PSCs to consider. Notably, program eligibility is extended to chargers 50 kW and above and includes the concept of future-proofing. In its decision, the California Public Utilities Commission (CPUC) states that, "...given the current trends of increasing battery size and higher powered charging stations, it is prudent for PG&E to install the customer-side electric infrastructure necessary to support electric vehicle supply equipment (EVSE) of 150 kW or larger

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[2]In December 2018, EVgo announced the opening of a Baker, CA site that includes two 50 kW fast chargers, 150 kW and 175 kW chargers, and a 350k W charger, all backed up with second-life batteries for energy storage. The chargers are all equipped with CCS and CHAdeMO connectors While most car batteries today cannot charge at these higher power levels, the Baker Station was developed in partnership with the California Public Utilities Commission (CPUC) as a technology demonstration fast charging hub. See: http://www.cpuc.ca.gov/General.aspx?id=5936

[3]https://insideevs.com/monthly-plug-in-sales-scorecard/

[4]California Public Utilities Commission, Decision No. 18-05-040

at all DCFC sites in the Fast Charge program to account for the possibility that the site host may wish to upgrade to higher-powered EVSE in the future."

The 50 kW minimum standard is not exclusive to California. For example, New Jersey is currently considering legislation, AB 3687, that establishes a statewide public plug-in electric vehicle charging system and defines DCFC as "at least 50 kilowatts of direct current electrical power."[5] A February 2019 Commission Order in New York does the same for the state's new DCFC incentive program,[6] as does Washington State's Department of Transportation's infrastructure grants program[7].

Last, the charging equipment needed for 200 kW and above can be exponentially more expensive because of the requirement for liquid cooled cables and cutting-edge power electronics technology. This means that a higher power mandate would have the unintentional result in keeping program costs high, reducing the number of chargers deployed per dollar of investment by as much as 66%, even though few cars on the road today would be able to use the charge. Future proofing higher power, however, instead of requiring it from the start, can help reduce site lifetime costs by allowing upgrades later when equipment is more readily available and less expensive, as well as a higher percentage of EVs on the road can take advantage of it. Moreover, lowering the minimum requirements will lower program costs, enabling even more EVSE to be installed for current and future Arizona EV drivers.

II. The Commission should focus on maximizing the number of payment options available to EV drivers and should not mandate one payment technology such as a physical credit card reader.

EVgo shares the Commission's goal of supporting access to residents of all demographics to EVs and charging infrastructure, and maximizing payment options is an important component to enable such access. EVgo supports the spirit of the Commission's efforts on access, which is why any fast-charge capable driver can use EVgo's DCFCs whether they are an EVgo member or a one-time user. However, based on EVgo's experience providing credit card readers to our customers, EVgo recommends making credit card readers one of multiple options for enabling access to charging infrastructure (Section 3.A.ii), but not a requirement.

EVgo is one of the few companies that today does have credit card readers on many of its chargers. Despite the widespread availability of credit card readers on the EVgo network, customer uptick is low, with credit card swipes representing less than 1% of all transactions as EV drivers make increased use of mobile payment methodologies. EVgo strongly expects this trend to continue as EV charging becomes more mainstream and charging companies continue innovating on technologies like EVgo's recent announcement of Autocharge[8] as well as bilateral interoperability discussions between charging networks.

Moreover, given the costs of installing and maintaining credit card readers, as well as security concerns raised by site hosts, EVgo recommends that the Commission instead focus on increasing access by

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[5] https://www.njleg.state.nj.us/2018/Bills/A4000/3687_I1.HTM

[6] CASE 18-E-0138. Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure.

[7] https://www.wsdot.wa.gov/NR/rdonlyres/69303513-8621-4A52-99B6-9260A8D1DDA8/0/C_AppendixEVIPP_Requirements_for_Highway_EVSE.pdf

[8] Autocharge enables EVgo registered drivers to start a fast charging session in seconds without the need to open a mobile app or swipe an RFID or credit card. See: https://www.evgo.com/about/news/evgo-is-first-north-american-ev-charging-network-to-deploy-autocharge-technology-enabling-an-instant-start-your-charge-experience-without-apps-or-cards/

requiring that all charging stations include *at least two* options for payment, which could include a toll-free telephone number to process a credit card payment, RFID card, near field communication or other mobile technology payment, vehicle telematics payment, onsite capacity for credit card payment, or another payment method. At this stage in the market, it is not necessary for the Commission to mandate one single option and should instead focus on enabling at least two payment options, up to the EVSP's discretion, to improve access.

III. EVgo applauds Staff's recommendations on rate design, which is and well-supported by multiple parties.

EVgo applauds Staff for its recommendations in Section 4.A that state "Public Service Corporations should maximize electric grid benefits through appropriate rate designs applicable to EV charging" and that PSCs should "propose rate design tariffs that alleviate the issues that non-regulated entities face when deploying DC fast charging stations."[9] As EVgo mentioned in its March 20 comment letter and at the March 14 workshop, commercial EV charging rates are critical for increasing the viability of DCFC for renters, fleets, rideshare drivers, and others who utilize public fast charging. The need for rate reform as identified by Staff was met with near unanimous support from EVSPs, including Chargepoint[10], Tesla[11], and Electrify America[12].

IV. EVgo commends Staff's support of the competitive market by focus on make-ready investments for DCFC.

EVgo commends Staff for its consideration of the importance of supporting a competitive market in Sections 5 & 8. EVgo agrees PSCs are a critical partner in the EV charging space. Not only do they provide the interconnection for fast chargers, but they also increasingly participate in the siting conversation as we move to higher and higher power levels.

The key for regulators and other policymakers, as Staff recognizes, is to identify how utility investment can complement and encourage private competition that benefits drivers and keeps costs down for ratepayers. This is why make-ready investments, as Staff identifies in Section 8 and as EVgo noted in its March 20 comment letter and in a December 2018 sign-on letter with SWEEP, are a "win-win." With make-ready programs, PSCs may focus on their core competencies, obtain more load across which to amortize fixed investments, reduce capital costs for third party charging companies, and enable more private investment.

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[9] Section4.A.ii, Arizona Corporation Commission Staff Implementation Plan for the Electric Vehicles, Electric Vehicle Infrastructure, and the Electrification of the Transportation Sector in Arizona Policy Statement, 03/25/2019

[10] https://edocket.azcc.gov/Document/DocumentDetailDocument?documentId=251928

[11] https://edocket.azcc.gov/Document/DocumentDetailDocument?documentId=255456

[12] https://edocket.azcc.gov/Document/DocumentDetailDocument?documentId=255874